

Bandwidth Control Using Reconfigurable Antenna Elements

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Abstract : Reconfigurable antennas represent a recent innovation in antenna design that changes from classical fixed-form, Fixed function antennas to modifiable structures that can be adapted to fit the requirements of a time varying system. The ability to control the operating band of an antenna system can have many useful applications. Systems that operate in an acquire-and-track configuration would see a benefit from active bandwidth control. In such systems a wide band search mode is first employed to find a desired signal, Then a narrow band track mode is used to follow only that signal. Utilizing active antenna bandwidth control, A single antenna would function for both the wide band and narrow band configurations providing the rejection of unwanted signals with the antenna hardware. This ability to move a portion of the RF filtering out of the receiver and onto the antenna itself will also aid in reducing the complexity of the often expensive RF processing subsystems.

Keywords : designing methods, mems, stack, reconfigurable elements

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